

WHAT IS CLAIMED IS:

1. A 1-chip microcomputer, comprising:

access permission address range setting means, for setting an address range in which an access is permitted, that is able to be set during accessing with respect to a specified address space;

judging means for judging whether or not an access is carried out within the address range thus set during execution of a software;

access permission setting means, for setting whether or not an access with respect to an address other than the address range should be permitted, that is able to be set during accessing with respect to the specified address space, and

control means for controlling an access with respect to a memory based on a result of the judging means and content setted by the access permission setting means.

2. A 1-chip microcomputer, comprising:

a monitor flag for setting a flag indicating that a specified address space is accessed;

an access permission address range setting register, for setting an address range in which an access is permitted, that is able to be set while the flag is

set;

judging means for judging whether or not an access is carried out within the address range thus set during execution of a software;

an access permission setting register, for setting whether or not an access with respect to an address other than the address range should be permitted, that is able to be set while the flag is set, and

control means for controlling an access with respect to a memory based on a result of the judging means and content set by the access permission setting register.

3. The 1-chip microcomputer as set forth in claim 2, wherein:

a system software is stored in the specified address space, and

the system software sets (a) the access permission address range setting register so as to have an address range in which a next program to be executed is stored prior to execution of the next program and (b) the access permission register so as not to permit the access with respect to the address other than the address range.

4. The 1-chip microcomputer as set forth in claim

2, further comprising interruption request signal generating means for generating an interruption request signal to a CPU when the access permission setting register is set so as not to permit to access the address other than the address range and the judging means judges that the address other than the address range has been accessed, in which a predetermined interruption proceeding program is executed.

5. The 1-chip microcomputer as set forth in claim 3, further comprising interruption request signal generating means for generating an interruption request signal to a CPU when the access permission setting register is set so as not to permit to access the address other than the address range and the judging means judges that the address other than the address range has been accessed, in which a predetermined interruption proceeding program is executed.

6. The 1-chip microcomputer as set forth in claim 4, wherein the interruption proceeding program hands over control to a system program or an operating system.

7. The 1-chip microcomputer as set forth in claim 5, wherein the interruption proceeding program hands over

control to a system program or an operating system.

8. The 1-chip microcomputer as set forth in claim 3, further comprising re-execution forbidding information memory means for storing information indicating that an access is carried out beyond an access limit,

wherein the control means controls the memory based on the information so that the access is not carried out again beyond the access limit.

9. The 1-chip microcomputer as set forth in claim 1, wherein the memory is a nonvolatile memory that is rewritable.

10. The 1-chip microcomputer as set forth in claim 2, wherein the memory is a nonvolatile memory that is rewritable.

11. The 1-chip microcomputer as set forth in claim 3, wherein the memory is a nonvolatile memory that is rewritable.

12. The 1-chip microcomputer as set forth in claim 4, wherein the memory is a nonvolatile memory that is rewritable.

13. The 1-chip microcomputer as set forth in claim 5, wherein the memory is a nonvolatile memory that is rewritable.

14. The 1-chip microcomputer as set forth in claim 6, wherein the memory is a nonvolatile memory that is rewritable.

15. The 1-chip microcomputer as set forth in claim 7, wherein the memory is a nonvolatile memory that is rewritable.

16. The 1-chip microcomputer as set forth in claim 8, wherein the memory is a nonvolatile memory that is rewritable.

17. An IC card that uses a 1-chip microcomputer, said 1-chip microcomputer comprising: (1) access permission address range setting means, for setting an address range in which an access is permitted, that is able to be set during accessing with respect to a specified address space; (2) judging means for judging whether or not an access is carried out within the address range thus set during execution of a software; (3)

access permission setting means, for setting whether or not an access with respect to an address other than the address range should be permitted, that is able to be set during accessing with respect to the specified address space, and (4) control means for controlling an access with respect to a memory based on a result of the judging means and content set by the access permission setting means.

18. An IC card that uses a 1-chip microcomputer, said 1-chip microcomputer comprising: (1) a monitor flag for setting a flag indicating that a specified address space is accessed; (2) an access permission address range setting register, for setting an address range in which an access is permitted, that is able to be set while the flag is set; (3) judging means for judging whether or not an access is carried out within the address range thus set during execution of a software; (4) an access permission setting register, for setting whether or not an access with respect to an address other than the address range should be permitted, that is able to be set while the flag is set, and (5) control means for controlling an access with respect to a memory based on a result of the judging means and content set by the access permission setting register.

19. The IC card as set forth in claim 18, wherein:

a system software is stored in the specified address space, and

the system software sets (a) the access permission address range setting register so as to have an address range in which a next program to be executed is stored prior to execution of the next program and (b) the access permission register so as not to permit the access with respect to the address other than the address range.

20. The IC card as set forth in claim 19, further comprising interruption request signal generating means for generating an interruption request signal to a CPU when the access permission setting register is set so as not to permit to access the address other than the address range and the judging means judges that the address other than the address range has been accessed, in which a predetermined interruption proceeding program is executed.

21. The IC card as set forth in claim 20, wherein the interruption proceeding program hands over control to a system program or an operating system.

22. The IC card as set forth in claim 19, further

comprising re-execution forbidding information memory means for storing information indicating that an access is carried out beyond an access limit,

wherein the control means controls the memory based on the information so that the access is not carried out again beyond the access limit.

by the control means, the access is not carried out again beyond the access limit.